

# ABSTRACT

A catalytic material includes microporous zeolites supported on a mesoporous inorganic oxide support. The microporous zeolite can include zeolite Beta, zeolite Y (including "ultra stable Y" - USY), mordenite, Zeolite L, ZSM-5, ZSM-11, ZSM-12, ZSM-20, Theta-1, ZSM-23, ZSM-34, ZSM-35, ZSM-48, SSZ-32, PSH-3, MCM-22, MCM-49, MCM-56, ITQ-1, ITQ-2, ITQ-4, ITQ-21, SAPO-5, SAPO-11, SAPO-37, Breck-6,  $\text{ALPO}_4$ -5, etc. The mesoporous inorganic oxide can be e.g., silica or silicate. The catalytic material can be further modified by introducing some metals e.g. aluminum, titanium, molybdenum, nickel, cobalt, iron, tungsten, palladium and platinum. It can be used as catalysts for acylation, alkylation, dimerization, oligomerization, polymerization, hydrogenation, dehydrogenation, aromatization, isomerization, hydrotreating, catalytic cracking and hydrocracking reactions.